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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,253	11/21/2000	Skiff Sokolov	1920-0115P	8310
2292	7590	05/19/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MARIAM, DANIEL G	
			ART UNIT	PAPER NUMBER

2621

DATE MAILED: 05/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/716,253

Applicant(s)

SOKOLOV, SKIFF

Examiner

DANIEL G MARIAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 & 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81. No new matter may be introduced in the required drawing. The Examiner suggests, among other things, a sketch of the region showing the addition of the selected pixel; grouping of pixels in pairs, that are adjacent to the region, including their location in relation to the region.

Applicant should submit a drawing (when responding to this action) in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit a drawing will result in **ABANDONMENT** of the application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 9 and 16 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. "From the average value of the pixels already included into the region" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). While the claim language recites "adding the pairs, pair by pair, to the region in dependence on that the squared difference of the selected pixel value from the pairs half sums does not exceed the dispersion of the noise of said difference multiplied by a tolerance level", the specification says: "... check is made whether the squared difference of their half sum $p(v) =$

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$(p(Y) + p(Z))/2$ from the average value of the pixels already included into R (i.e., the region) does not exceed the dispersion D of the noise present in the mentioned difference multiplied by some tolerance level L set by the user". Thus, the above-identified difference does indeed depend on the average value of the pixels already included into the region, which is essential in determining the condition of the dispersion.

4. Since claims 2-8 and 10-13 directly or indirectly depend on claims 1 and 9 they are also rejected under 35 U.S.C. 112, first paragraph, for the same reason set forth above for claims 1 and 9.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, recites the limitation "a method for reduction of noise in an image" in line 1, and "reconstruction of said image" in line 19. It is unclear how one is related to the other. A similar limitation also occurs in claims 9 and 16. Please clarify.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how the limitation "wherein the absolute value of said correlation is at least 0.8, preferably 0.9, and more preferably 0.95" could be interpreted in light of what is being

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stated on page 18 of the specification "the squared correlation coefficient for reconstructed images often exceeds 0.90 . . .". Please clarify.

Claim Objections

8. Claims 14 and 15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito, et al. (5,485,371).

With regard to claim 6, Ito, et al. discloses a method for reduction of noise in an image including a plurality of pixels, i.e., picture elements (See for example, col. 3, lines 43-49), comprising the steps of:

Obtaining a noise reduced value of a first pixel, calculating an estimate of the fluctuation of said noise, i.e., the variation of noise at each level, reduced value of said first pixel (See for example, col. 4, lines 29-47; and col. 5, lines 5-14), calculating an estimate of the fluctuation at a second pixel, wherein said fluctuation of said second is correlated to said fluctuation of said first pixel, and obtaining a noise reduced value of said second pixel by subtracting said fluctuation at said second pixel (col. 4, lines 48-59; and col. lines 15-41).

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With regard to claim 8, the method as claimed in claim 6, wherein said first and said second pixels are located in different images, i.e., soft tissue image and bone image (See for example, in Fig. 6).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Numbers: 4807034, 4937878, 5099329, 6049623, 6061100; and European Patent Number 0683482A2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G MARIAM whose telephone number is 703-305-4010. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LEO BOUDREAU can be reached on 703-305-4607. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DANIEL MARIAM
PRIMARY EXAMINER

May 4, 2004